

a cell preservation memory storing the latest cell transmitted from the VPI/VCI separator;

a read-out timer controlling intervals at which the cells are read from the variation regulating buffer or the cell preservation memory; and

a selector selecting either one of the variation regulating buffer and the cell preservation memory from which a cell to be transmitted to a cell reproducer is read.

12. A cell delay variation regulator in accordance with claim 11, further comprising:

a communication type discriminator discriminating a type of communication during a call set-up phase and the setting the waiting time to the variation waiting timer depending on the discriminated communication type.

13. A cell delay variation regulator in accordance with claim 11, further comprising:

a dummy cell inserting unit inserting a last reaching cell as a dummy cell to be transmitted to the cell reproducer when a cell delay time cannot be regulated by the waiting time controlled by the variation waiting timer in a sound or moving image communication.

14. A cell delay variation regulator in accordance with claim 11, further comprising:

a burst flag indicating during receiving the burst (ON) or not (OFF);
a read-out flag indicating during cell-read-out operation (ON); and

a queue counter indicating the cell number in the variation regulating buffer.

15. A cell delay variation regulator in accordance with claim 14, wherein the selector selects the cell preservation memory when the queue counter indicates "0".

16. A cell delay variation regulator in accordance with claim 14, wherein the variation waiting timer is started when the burst flag is ON and is stopped when the burst flag is OFF, and when the timer reaches the waiting time the valuation waiting timer causes the read-out flag to be ON.

17. A cell delay variation regulator in accordance with claim 14, wherein the read-out timer is started when the read-out flag is ON and stopped when the read-out flag is OFF, and when the timer reaches the predetermined interval the timer causes the cell-read-out operation and the timer is reset.

18. A cell delay variation regulator in accordance with claim 12, wherein the communication type discriminator calculates the waiting time from a transmission speed and an acceptable cell loss probability when the discriminated communication type is sound or moving image communication.

19. A cell delay variation regulator in accordance with claim 12, wherein the communication type discriminator sets a maximum cell delay time as the waiting time when the discriminated communication type is a file transfer communication.

20. A cell delay variation regulator in accordance with claim 12, wherein the communication type discriminator sets zero as the waiting time when the discriminated communication type is remote terminal processing communication.

21. A cell assembly and disassembly apparatus, comprising:

a cell assembly and disassembly unit which assembles and disassembles cells;

a controller which controls cell assembly and disassembly performed by said cell assembly and disassembly apparatus;

a Virtual Path Identifier/Virtual Channel Identifier (VPI/VCI) separator which separates a VPI/VCI of each disassembled cell from said assembly and disassembly unit; and

a cell delay variation regulator for regulating cell delay variation for said cell assembly and disassembly apparatus,

wherein said cell delay variation regulator comprises:

a variation regulating buffer temporarily storing cells transmitted from a VPI/VCI separator,

a variation waiting timer controlling a waiting time from the time a top cell of a burst is received to the time a reading operation of a cell from the variation regulating buffer starts,

a cell preservation memory storing the latest cell transmitted from the VPI/VCI separator,

a read-out timer controlling intervals at which the cells are read from the variation regulating buffer or the cell preservation memory, and

a selector selecting either one of the variation regulating buffer and the cell preservation memory from which a cell to be transmitted to a cell reproducer is read.

22. A cell assembly and disassembly apparatus in accordance with claim 21, wherein said cell delay variation regulator further comprises:

a communication type discriminator discriminating a type of communication during a call set-up phase and the setting the waiting time to the variation waiting timer depending on the discriminated communication type.

23. A cell assembly and disassembly apparatus in accordance with claim 21, wherein said cell delay variation regulator further comprises:

a dummy cell inserting unit inserting a last reaching cell as a dummy cell to be transmitted to the cell reproducer when a cell delay time cannot be regulated by the waiting time controlled by the variation waiting timer in a sound or moving image communication.

24. A cell assembly and disassembly apparatus in accordance with claim 21, wherein said cell delay variation regulator further comprises:

a burst flag indicating during receiving the burst (ON) or not (OFF);

a read-out flag indicating during cell-read-out operation (ON); and

a queue counter indicating the cell number in the variation regulating buffer.

25. A cell assembly and disassembly apparatus in accordance with claim 24, wherein the selector selects the cell preservation memory when the queue counter indicates

“0”.

26. A cell assembly and disassembly apparatus in accordance with claim 24, wherein the variation waiting timer is started when the burst flag is ON and is stopped when the burst flag is OFF, and when the timer reaches the waiting time the valuation waiting timer causes the read-out flag to be ON.

27. A cell assembly and disassembly apparatus in accordance with claim 24, wherein the read-out timer is started when the read-out flag is ON and stopped when the read-out flag is OFF, and when the timer reaches the predetermined interval the timer causes the cell-read-out operation and the timer is reset.

28. A cell assembly and disassembly apparatus in accordance with claim 22, wherein the communication type discriminator calculates the waiting time from a transmission speed and an acceptable cell loss probability when the discriminated communication type is sound or moving image communication.

29. A cell assembly and disassembly apparatus in accordance with claim 22, wherein the communication type discriminator sets a maximum cell delay time as the waiting time when the discriminated communication type is a file transfer communication.

30. A cell assembly and disassembly apparatus in accordance with claim 22, wherein the communication type discriminator sets zero as the waiting time when the

discriminated communication type is remote terminal processing communication.

31. A cell delay variation method in a cell assembly and disassembly apparatus, said cell delay variation method comprising the steps of:

temporarily storing, in a variation regulating buffer, cells transmitted from a VPI/VCI separator;

controlling a waiting time from the time a top cell of a burst is received to the time a reading operation of a cell from the variation regulating buffer starts;

storing, a cell preservation memory, the latest cell transmitted from the VPI/VCI separator;

controlling intervals at which the cells are read from the variation regulating buffer or the cell preservation memory; and

selecting either one of the variation regulating buffer and the cell preservation memory from which a cell to be transmitted to a cell reproducer is read.

32. A cell delay variation method in accordance with claim 31, further comprising the step of:

discriminating a type of communication during a call set-up phase and the setting the waiting time to a variation waiting time depending on the discriminated communication type.

33. A cell delay variation method in accordance with claim 31, further comprising the step of:

inserting a last reaching cell as a dummy cell to be transmitted to the cell reproducer when a cell delay time cannot be regulated by the variation waiting time in a sound or moving image communication.

34. A cell delay variation method in accordance with claim 31, further comprising the steps of:

indicating by a burst flag whether a burst is being received, burst (ON) or not (OFF);

indicating by a read-out flag whether a cell read-out is being performed, cell-read-out operation (ON); and

indicating by a queue counter a cell number in the variation regulating buffer.

35. A cell delay variation method in accordance with claim 34, wherein the selecting step selects the cell preservation memory when the queue counter indicates "0".

36. A cell delay variation method in accordance with claim 34, wherein variation waiting timing is started when the burst flag is ON and is stopped when the burst flag is OFF, and when the variation waiting timing reaches the waiting time the read-out flag is to be ON.

37. A cell delay variation method in accordance with claim 34, wherein read-out timing is started when the read-out flag is ON and stopped when the read-out flag is OFF, and when the read-out timing reaches the predetermined interval the cell-read-out operation and the timer is reset.

38. A cell delay variation method in accordance with claim 32, wherein the communication type discriminating step calculates the waiting time from a transmission speed and an acceptable cell loss probability when the discriminated communication type is sound or moving image communication.

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39. A cell delay variation method in accordance with claim 32, wherein the communication type discriminating step sets a maximum cell delay time as the waiting time when the discriminated communication type is a file transfer communication.

40. A cell delay variation method in accordance with claim 32, wherein the communication type discriminating step sets zero as the waiting time when the discriminated communication type is remote terminal processing communication. --
